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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/902,995	07/11/2001	Nuggehally S. Jayant	05145.0008U1	1924

23859 7590 01/31/2007

NEEDLE & ROSENBERG, P.C.
SUITE 1000
999 PEACHTREE STREET
ATLANTA, GA 30309-3915

EXAMINER	
VO, TUNG T	
ART UNIT	**PAPER NUMBER**
2621	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	09/902,995	JAYANT ET AL.
	Examiner	Art Unit
	Tung Vo	2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 12 December 2006.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-51 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-51 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/12/2006 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 11, 17-18, 25-27, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US 6,025,880) in view of in view of Ismaeil et al. (US 6,876,703 B2).

Re claims 1 and 35, Nakagawa teaches a method for calculating an optimum display size for a visual object (23 of fig. 2, and fig. 3) comprising the steps of compressing a visual object (fig. 4) with a visual object encoder (fig. 2); for

determining an encoding resolution for an input visual object prior to encoding (21 and 24 of fig. 1, Note the resolution conversion means (21 of fig. 1) and (24 of fig. 1) change resolutions, of a picture, on the basis of information of a resolution determined by the resolution determination means (23 of fig. 1); see also col. 2, lines 55-58);a predetermined number of frames of visual object at encoding resolution (Note the changed resolution frame of visual object is encoded, fig. 2) comprising at least one video frame (30 frames/seconds; col. 6, lines 7-12), deriving a coding difficulty value (11, 12, 13, and 22 of fig. 2);

determining the optimum viewing display size (23 of fig. 1; col. 8, lines 5-13) for the encoded visual object (fig. 4) based on at least one of the coding difficulty value (22 of fig. 2) and an encoded visual object transmission rate (25 of fig. 2; Note the resolution determination means includes a monitoring facility for monitoring a buffer occupation ratio at which a buffer interposed between the encoding system and a transmission line is occupied. When the buffer occupation ratio detected by the monitoring facility is high, a lower resolution is selected. When the buffer occupation ratio is low, a higher resolution is selected; col. 3, lines 3, lines 5-10, and 61-67) thereby maximizing perceived quality of a displayed visual object (col. 4, lines 9-11, Note an appropriate amount of information (quality) to a transmission line to the display considered as maximum perceived quality of a displayed visual object); wherein the visual object comprises one of a graphical image and video (fig. 4); transmitting the visual object over a computer network (25 of fig. 2, Note a transmission line would obviously be considered as a computer network); wherein the visual object transmission rate comprises one or more values measured in units of information per unit of time (encoded video object of fames per second) and a

speed at which binary digits are transmitted (encode video object are binary digits); wherein the video comprises one of a stored video and a live television signal (INPUT ORIGINAL PICTURE of fig. 2).

It is noted that Nakagawa further suggests that the resolution determination means includes a monitoring facility for monitoring a buffer occupation ratio at which a buffer interposed between the encoding system and a transmission line is occupied and resolutions can be changed even for the encoding method, so this is an evidence to one skill in the art to modify the encoder as taught by Nakagawa in figure 1. However, Nakagawa does not particularly teach calculating one or more signal to noise ratios as claimed.

However, Ismaeil teaches calculating one or more signal to noise ratios wherein calculating the signal to noise ratios comprises comparing an original visual object with an encode visual object (col. 6, lines 53-55) and suggests that many alternations and modifications may be made (col. 14, lines 54-57).

Therefore, taking the teachings of Nakagawa and Ismaeil as whole, it would have been obvious to one of ordinary skill in the art to modify the suggested teachings of Ismaeil into the calculating optimum display system of Nakagawa in order to provide dynamic modification of the parameters of encoding in order to ensure that certain constraints will be satisfied, as a result there is an increased demand for systems capable of efficiently encoding video signals. Doing so would allow the display to provide an appropriate amount of information (quality) to a transmission line.

Note the applicant discloses an optimum display size can consider the quality of the display device, such as its resolution capabilities ([0076] of page 7 of US 2002/0028024) and the size of the display device.

Re claims 17-18 and 25-27, Nakagawa teaches a method for calculating an optimum display size for a visual object (23 of fig. 2, and fig. 3) comprising the steps of Receiving an encoded visual object (13 of fig. 1), previously encoded at an encoding resolution (21 of fig. 1; Note an input picture conversion means for converting the input picture into a picture having a resolution determined by the resolution determination means; col. 2, lines 55-58)for a predetermined number of the encoded frames of visual object (30 frames/seconds; col. 6, lines 7-12), calculating a step size (12 of fig. 2); deriving a coding difficulty value as a function of step size (11, 12, 13, and 22 of fig. 2); determining the optimum display size (23 of fig. 1; col. 8, lines 5-13) for the visual object (fig. 4) based on at least one of the coding difficulty value (22 of fig. 2) and a visual object transmission rate (25 of fig. 2); wherein the visual object comprises one of a graphical image and video (fig. 4); calculating step sizes for one of sets of frames of the visual object (30 frames per second), a sampling of frames of the visual object, and each frame of the visual object; wherein the step of calculating the step size further comprises the step of calculating the step size based upon a first transformation coefficient (11 of fig. 2); wherein the step of calculating the step size further comprises the step of calculating the step size based upon a second transformation coefficient (11 of fig. 2).

3. Claims 2-11, 15-16, 19-24, 31-34, 39, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US 6,025,880) in view of Ismaeil et al. (US

6,876,703 B2) as applied to claims 1 and 35, and further in view of Lau et al. (US 6,681,043 B1).

Re claims 2-11, 15-16, 19-24, 31-34, 39, and 51, the combined Nakagawa and Ismaeil teaches the method for calculating an optimum display size for a visual object above.

It is noted that combination of Nakagawa and Ismaeil does not particularly teach a sampling of frames of the visual object, and each frame of the visual object, the graphical image comprises one of a banner advertisement, a photograph, and a graphical object; automatically displaying the visual object with the optimum display size; displaying the visual object with the optimum display size in response to a user command; wherein the step of displaying a message further comprises displaying a message with one of a cathode ray tube, a liquid crystal display, a light emitting diode display, and a projector; and transmitting the visual object over a wireless medium; one of radio frequency waves, infrared light waves, and a form of electromagnetic coupling; a form of payment as a requirement to encode the visual object as claimed.

However, Lau teaches the step of sampling of frames of the visual object, and each frame of the visual object (col. 3, lines 13-28; col. 8, line 40-col. 9, line 3); the graphical image comprises one of a banner advertisement, a photograph, and a graphical object (col. 5, lines 50-65; MPEG-4 standard); automatically displaying the visual object with the optimum display size (fig. 3); displaying the visual object with the optimum display size in response to a user command (fig. 3); wherein the step of displaying a message further comprises displaying a message with one of a cathode ray tube, a liquid crystal display, a light emitting diode display, and a projector (fig. 6); transmitting the

visual object over a wireless medium; one of radio frequency waves, infrared light waves, and a form of electromagnetic coupling; a form of payment as a requirement to encode the visual object (34 of fig. 2; Note NETWORK I/F).

Therefore, taking the teachings of Nakagawa, Ismaeil, and Lau as a whole. It would have been obvious to one of ordinary skill in the art to incorporate the teachings of Lau into the method of the combination of Nakagawa and Ismaeil to allow the operator is able to visualize how peak signal to noise ratio varies between video objects over a sequence of frames or how the total number of bits affects the peak signal to noise ratio of each component of an object. When the image quality is unsatisfactory, these displays enable the operator to identify a parameter in need of adjusting to balance peak signal to noise ratio and the bit rate.

4. Claims 28 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US 6,025,880) in view of Ismaeil et al. (US 6,876,703) as applied to claim 17, and further in view of Lau et al. (US 6,681,043 B1) as applied to claim 35, and further in view of Keesman (US 5,805,224).

Re claims 28 and 36, the combination of Nakagawa, Ismaeil, and Lau does not particularly teach the step of calculating a mean value of the calculated step sizes an audio encoder and an audio/video system multiplexer as claimed.

However, Keesman teaches the step of calculating a mean value of the calculated step sizes an audio encoder and an audio/video system multiplexer (col. 1, lies 15-42).

Therefore, taking the teachings of Nakagawa, Ismaeil, Lau, and Keesman as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the

teachings of Keesman into the combination method of Nakagawa, Ismaeil, and Lau for the same purpose of calculating the step sizes. Doing so would provide the encoding method more efficiency.

5. Claims 13-14, 29-30, and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US 6,025,880) in view of Ismaeil et al. (US 6,876,703 B2) as applied to claims 1, 17, and 35, and further in view of Rui (US 6,859,802 B1).

Re claims 13-14, 29-30, and 37-38; The combination of Nakagawa and Ismaeil does not particularly teach the step of determining the optimum display size for the visual object comprises the step of associating the coding difficulty value and a visual object transmission rate of the visual object with one or more empirically determined functions; and the step of associating one of a plurality of empirically determined stair step functions with values indicating a relative size of visual object on display device as claimed.

However, Rui teaches the step of determining the optimum display size for the visual object comprises the step of associating the coding difficulty value and a visual object transmission rate of the visual object with one or more empirically determined functions (col. 9, lines 40-47); and the step of associating one of a plurality of empirically determined stair step functions with values indicating a relative size of visual object on display device (Note the empirically functions can be varied so that the stair step function is performed).

Therefore, taking the teachings of Nakagawa, Ismaeil, and Rui as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Rui into the combination of Nakagawa and Ismaeil for the same purpose of empirically determined the display size. Doing so would provide for improved image retrieval based on relevance feedback.

6. Claims 40-41, 43 and 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. (US 6,256,045) in view of Lau et al. (US 6,681,043).

Note the applicant discloses a optimum display size can consider the quality of the display device, such as its resolution capabilities ([0076] of page 7 of US 2002/0028024) and the size of the display device.

Re claims 40, 43, and 45-46, Bae teaches a system for calculating an optimum display size for a visual object comprising (fig. 6): an decoder (61 of fig. 1) for decompressing an encoded a visual object, wherein the encoded visual object has been previously encoded at an encoding resolution (Note encoded bit stream has been encoded at an encoding resolution as respect ratios of SD or HD; the image presenting part 14 reads the pixel data of a picture, decoded in the video decoding part 13 and stored in the external memory 20, in an order of display, processes signals to be displayable on a screen (step 203), converts a video format if the video source and display 30 are different in numbers of display pixels, data transmission rates, or aspect ratios, and presents to the display 30) , for calculating a step size for a predetermined number of frames of the visual object (an inverse quantization process performs a step sized; a predetermined number of frames (I, B, P) as considered 30 frames per second; col. 1, lines 11-50), for

estimating a coding difficulty value as a function of step size (the inverse quantization process); a display size selector (62 of fig. 16) for determining an optimum display size (509 of fig. 5) of the visual object based on the estimated coding difficulty value and a visual object transmission rate (fig. 5 and 6; col. 6, lines 1-62); wherein the visual object comprises one of a graphical image and video (I, B, P video image); a visual object render (510 of fig. 5; 14 of fig. 6)) for generating the decompressed visual object.

It is noted Bae suggests that modifications and variations can be made in the method and device (fig. 6; col. 7, lines 19-23) but Bae does not particularly teach a display device for displaying a message indicating the optimum display size for the encoded visual object; estimates a harmonic mean of a peak to noise ratio for a predetermined number of frames of the visual object as claimed.

However, Lau teaches a display device for displaying a message indicating the optimum display size for the encoded visual object; and estimates a harmonic mean of a peak to noise ratio for a predetermined number of frames of the visual object (fig. 6) and further suggests that various alternatives, modifications, and equivalents may be used (col. 12, lines 8-9).

Therefore, taking the teachings of Bae and Lau as a whole. It would have been obvious to one of ordinary skill in the art to incorporate the teachings of Lau into the system of Bae to allow the operator is able to visualize how peak signal to noise ratio varies between video objects over a sequence of frames or how the total number of bits affects the peak signal to noise ratio of each component of an object. When the image quality is unsatisfactory, these displays enable the operator to identify a parameter in need of adjusting to balance peak signal to noise ratio and the bit rate.

7. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. (US 6,256,045) in view of Lau et al. (US 6,681,043), and further in view of Keesman (US 5,805,224).

Re claim 42, the combination of Bae and Lau does not particularly teach the step of calculating a mean value of the calculated step sizes an audio encoder and an audio/video system multiplexer as claimed.

However, Keesman teaches the step of calculating a mean value of the calculated step sizes an audio encoder and an audio/video system multiplexer (col. 1, lies 15-42).

Therefore, taking the teachings of Bae, Lau, and Keesman as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Keesman into the combination method of Bae and Lau for the same purpose of calculating the step sizes. Doing so would provide the encoding method more efficiency.

8. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. (US 6,256,045) in view of Lau et al. (US 6,681,043), and further in view of Rui (US 6,859,802 B1)

Re claim 44, The combination of Bae and Lau does not particularly teach the step of determining the optimum display size for the visual object comprises the step of associating the coding difficulty value and a visual object transmission rate of the visual object with one or more empirically determined functions as claimed.

However, Rui teaches the step of determining the optimum display size for the visual object comprises the step of associating the coding difficulty value and a visual

object transmission rate of the visual object with one or more empirically determined functions (col. 9, lines 40-47)).

Therefore, taking the teachings of Bae, Lau, and Rui as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Rui into the combination of Bae and Lau for the same purpose of empirically determined the display size. Doing so would provide for improved image retrieval based on relevance feedback.

9. Claims 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US 6,025,880) in view of Klosterman et al. (US 6,469,753 B1).

Re claim 47-50, Nakagawa discloses a method for calculating an optimum display size for a visual object (figs. 2-4) comprising the steps of compressing a visual object with a visual object encoder (fig. 2); determining the optimum display size (23 of fig. 2) for the visual object based on at least one of a coding difficulty value (22 of fig. 2) and a visual object transmission rate (25 of fig. 2; col. 8, lines 5-24).

It is noted that Nakagawa does not particularly teach the step of displaying a message indicating the optimum display size for the encoded visual object; wherein the step of determining an optimum display size further comprises the step of evaluating one of a quality of the display device and a size of the display device; and automatically displaying the visual object with the optimum display size; displaying the visual object with the optimum display size in response to a user command as claimed.

However, Klosterman teaches the step of displaying a message indicating the optimum display size for the encoded visual object (col. 8, lines 26-50); wherein the step of determining an optimum display size further comprises the step of evaluating one of a

quality of the display device and a size of the display device (figs. 5a, 5b); and automatically displaying the visual object with the optimum display size (MPEG-2 of fig. 6a); displaying the visual object with the optimum display size in response to a user command (MPEG-1 of fig. 6a).

Therefore, taking the teachings of Nakagawa and Klosterman as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Klosterman into the method of Nakagawa for displaying the indication of the compressed or encoded video format. Doing so would allow the user to choose between full screen display of the guide and a partial or reduced size picture-in-picture (PIP) window display of the guide via.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Stapleton (US 6,489,997) discloses a versatile video transformation device.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Vo whose telephone number is 571-272-7340. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tung Vo
Primary Examiner
Art Unit 2621

Notice of References Cited	Application/Control No. 09/902,995	Applicant(s)/Patent Under Reexamination JAYANT ET AL.	
	Examiner Tung Vo	Art Unit 2621	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,489,997 B1	12-2002	Stapleton, John J.	348/441
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

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